

ABSTRACT

We have developed a chicken (*Gallus domesticus*) Z-chromosome-specific DNA library in a phage vector, by means of chromosome microisolation and microcloning. The chromosomal origin, specificity and purity was evaluated by fluorescent *in situ* hybridization (FISH) on chicken metaphases. Heterologous chromosome painting, using this Z-chromosome-specific probe on turkey (*Meleagris gallopavo*) metaphases identified its homologous Z-chromosome, under the same stringent conditions as that used in the chicken, indicating a high degree of Z-chromosome sequence homology among these two species. This chicken Z-chromosome library will facilitate the development of Z-chromosome-specific DNA markers that will be useful for genetic mapping in the domestic chicken and related avian species. The Z-chromosome-specific DNA probe will also be useful for studies pertaining to the sex chromosome evolution in avian species.